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10/563,953	01/10/2006	Hasse Sinivaara	60091.00447	3591

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EXAMINER	
PHAN, HUY Q	

ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/563,953	SINIVAARA ET AL.	
	Examiner	Art Unit	
	HUY Q. PHAN	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *15-21,25-34 and 37* is/are allowed.

6)☒ Claim(s) *1,2,6-8,10, 11, 13,14,22-24,35 and 36* is/are rejected.

7)☒ Claim(s) *3-5,9 and 12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to Amendment filed on date: 02/23/2009.

Claims 1-37 are still pending.

Claims 31-37 are newly added.

Response to Arguments

2. Applicant's arguments, see REMARKS, have been fully considered but they are not persuasive.

Applicant argued that "the combination of Fischer and Ayyagari fails to disclose or suggest all of the features of any of the presently pending claims" (see REMARKS page 16-17). The examiner respectfully disagrees with the applicant's argument and contends that the combination of Fischer and Ayyagari discloses or suggests all of the features of the rejected claims as shown in the section 5 (I).

Applicant argued that "Ayyagari does not disclose or suggest introducing the list of SSIDs of Ayyagari into at least some beacon frames". The examiner respectfully disagrees with the applicant's argument. Ayyagari specifically describes that the list of SSIDs are presented ("STA also presents a list of visible SSIDs in the Ad Hoc mode" (see [0049]) read on the claimed limitation "introducing an identifier list"). Since, Ayyagari also discloses that the identifier list is retrieved by the technique of beaconing in the Ad hoc mode ("This retrieved list includes information regarding the STAs beaconing in Ad Hoc mode" see [0049]), so one of ordinary skill in the art could see that

the identifier list must be included into the beacon frames, which are used to contain the beacon data in the Ad hoc communication system. Thus, Ayyagari discloses "introducing the list of SSIDs of Ayyagari into at least some beacon frames".

Applicant argued that "In addition, Ayyagri fails to disclose or suggest that the list of Ayyagari includes SSIDs of STAs belonging to a single ad-hoc network". The figure 2 of Ayyagari shows a single ad hoc network (see [0018]) wherein the STS can introduce a list of SSIDs in the ad hoc mode ("STA also presents a list of visible SSIDs in the Ad Hoc mode" see [0049]). Accordingly, Ayyagari suggests claimed limitation "the identifier list including identifiers of wireless terminals belonging to the ad- hoc network," as recited in independent claim 1 and similarly recited in independent claim 22.

For all the explanations discussed above, it is believed that the combination of Fischer and Ayyagari discloses all of the elements of independent claims 1 and 22. Accordingly, the rejection of independent claims 1 and 22 still stands.

In response to the applicant's argument, with regard to the rejection of claims 2, 6, 13-14 and 23 under 35 USC § 103(a) over Fischer in view of Ayyagari (see REMARKS page 19), it is believed that Fischer and Ayyagari disclose all the limitations of the independent claims (see section above) from which claims 2, 6, 13-14 and 23 depend. Thus, the combination of Fischer and Ayyagari can be used to establish prima facie obviousness for claims 2, 6, 13-14 and 23 because the cited references teach or suggest all claim limitations as required. See MPEP § 2143.03. Therefore, prima facie obviousness under 35 U.S.C. § 103 has been established.

In response to the applicant's argument, with regard to the rejection of claims 7, 8, 10, 11 and 24 under 35 USC § 103(a) over Fischer in view of Ayyagari and further in view of Rudnick (see REMARKS page 19), it is believed that Fischer and Ayyagari disclose all the limitations of the independent claims (see section above) from which claims 7, 8, 10, 11 and 24 depend. Thus, the combination of Fischer, Ayyagari and Rudnick can be used to establish prima facie obviousness for claims 7, 8, 10, 11 and 24 because the cited references teach or suggest all claim limitations as required. See MPEP § 2143.03. Therefore, prima facie obviousness under 35 U.S.C. § 103 has been established.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 35 and 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitations of "A computer-readable storage medium encoded with instructions configured to control a processor to perform a process" in the claims 35 and 36 are not support by the specification.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 35 and 36 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The applicant's specification fails to provide antecedent basic for claim terminology "computer-readable storage medium" and does not specifically disclose the claimed limitation "computer-readable storage medium" to exclude signal medium. It is known the art that the signal medium is used for containing, storing, communicating, propagating or transporting the computer software. Since, the independent claims 35 and 36 claim "A computer-readable storage medium", one of ordinary skill in the art could interpret that the computer-readable storage medium is a signal medium. Since a signal medium is a carrier wave signal, which has no physical structure, it does not itself perform any useful, concrete and tangible result; thus, when "A computer-readable storage medium" is interpreted as a carrier wave signal, it is non-statutory subject matter.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

I) Claims 1, 2, 6, 13, 14, 22, 23 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer (US 2004/0246932; previously cited) in view of Ayyagari (US 2002/0176366; previously cited).

Regarding claim 1, Fischer discloses a method comprising:

establishing a beacon interval ("wireless terminal first determines" see [0046] and fig. 5 A step 504) for an ad-hoc network ("An IBSS is usually an ad-hoc network" see [0037] and [0045]), the beacon interval being established in a first wireless terminal ("local LSTT is less than the sum of the Target Beacon Transition Time (TBTT) and the Minimum Long Slot Epoch (MLSE)" see [0047] and fig. 5A step 508);

broadcasting beacon frames ("the LSTT field of the beacon frame which is scheduled for transmission at TBTT" see [0077]; "beacon is then sent" see [0047]) from the first wireless terminal at the beacon intervals ("all of those parameters are broadcast in beacon frames that are sent at a regular interval" see [0036]), wherein the first wireless terminal starts to act as a beacon broadcaster in the ad-hoc network and one wireless terminal at a time acts as the beacon broadcaster ("wireless terminal that operates according to FIG. 5A receives beacons and may transmit beacons" see [0045

and fig. 5A) during normal operation of the ad-hoc network ("In an IBSS, the wireless terminals of the IBSS share beaconing duties" see [0037]).

But, Fischer does not particularly show introducing an identifier list into at least some of the beacon frames, the identifier list including identifiers of wireless terminals belonging to the ad-hoc network. However in analogous art, Ayyagari teaches introducing an identifier list into at least some of the beacon frames ("the STA also presents a list" see [0049]), the identifier list including identifiers of wireless terminals belonging to the ad-hoc network ("This retrieved list includes information regarding the STAs beaconing in Ad Hoc mode" see [0049]). Since, Fischer and Ayyagari are related to Ad-hoc wireless network; and/or more specifically they both are concerned with transmitting the beacon signal; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Fischer as taught by Ayyagari for purpose of providing the STAs beaconing information to all STAs associating with the particular IBSS; thus making the process of broadcasting much faster and saving the power consumption of the STA as the known beaconing information being provided.

Regarding claim 2, Fischer discloses the method according to claim 1, further comprising utilizing the identifier list if another wireless terminal than said first wireless terminal is to be selected as the beacon broadcaster ("In an IBSS, the wireless terminals of the IBSS share beaconing duties" see [0037]).

Regarding claim 6, Fischer discloses the method according to claim 1, further comprising transmitting, when a wireless terminal joins the ad-hoc network ("joins" see [0040]), an identifier of the wireless terminal to the wireless terminal currently acting as the beacon broadcaster ("In an IBSS, the wireless terminals of the IBSS share beaconing duties" see [0037]).

Regarding claim 13, Fischer discloses the method according to claim 1, wherein the identifier list contains media access control addresses of the wireless terminals belonging to the ad-hoc network ("MAC address" see [0037]).

Regarding claim 14, Fischer discloses the method according to claim 1, further comprising inserting power state information in the identifier list, the power state information indicating whether a wireless terminal mentioned in the list is in a power save state ("idle sate" see [0039] and "idle operation" see [0043]).

Regarding claim 22, Fischer discloses an apparatus (fig. 7) comprising:

a transmitter configured to broadcast beacon frames at beacon intervals in an ad-hoc network ("all of those parameters are broadcast in beacon frames that are sent at a regular interval" see [0036]).

But, Fischer does not particularly show wherein transmitter is configured to insert an identifier list in at least some of the beacon frames, the identifier list including identifiers of wireless terminals belonging to the ad-hoc network. However in analogous

art, Ayyagari teaches inserting an identifier list in at least some of the beacon frames ("the STA also presents a list" see [0049]), the identifier list including identifiers of wireless terminals belonging to the ad-hoc network ("This retrieved list includes information regarding the STAs beaconing in Ad Hoc mode" see [0049]). Since, Fischer and Ayyagari are related to Ad-hoc wireless network; and/or more specifically they both are concerned with transmitting the beacon signal; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Fischer as taught by Ayyagari for purpose of providing the STAs beaconing information to all STAs associating with the particular IBSS; thus making the process of broadcasting much faster and saving the power consumption of the STA as the known beaconing information being provided.

Regarding claim 23, Fischer discloses the apparatus according to claim 22, further comprising a processor configured to establish a beacon interval for the ad-hoc network ("all of those parameters are broadcast in beacon frames that are sent at a regular interval" see [0036]).

Regarding claim 35, Fischer discloses a computer-readable storage medium (fig. 7, 758) encoded with instructions ("instructions" see [0054]) configured to control a processor (fig. 7, 756) to perform a process, comprising:

establishing a beacon interval ("wireless terminal first determines" see [0046] and fig. 5 A step 504) for an ad-hoc network ("An IBSS is usually an ad-hoc network" see

[0037] and [0045]), the beacon interval being established in a first wireless terminal ("local LSTT is less than the sum of the Target Beacon Transition Time (TBTT) and the Minimum Long Slot Epoch (MLSE)" see [0047] and fig. 5A step 508);

broadcasting beacon frames ("the LSTT field of the beacon frame which is scheduled for transmission at TBTT" see [0077]; "beacon is then sent" see [0047]) from the first wireless terminal at the beacon intervals ("all of those parameters are broadcast in beacon frames that are sent at a regular interval" see [0036]), wherein the first wireless terminal starts to act as a beacon broadcaster ("wireless terminal that operates according to FIG. 5A receives beacons and may transmit beacons" see [0045 and fig. 5A) in the ad-hoc network and one wireless terminal at a time acts as the beacon broadcaster during normal operation of the ad-hoc network ("In an IBSS, the wireless terminals of the IBSS share beaconing duties" see [0037]); and

But, Fischer does not particularly show introducing an identifier list into at least some of the beacon frames, the identifier list including identifiers of wireless terminals belonging to the ad-hoc network. However in analogous art, Ayyagari teaches introducing an identifier list into at least some of the beacon frames ("the STA also presents a list" see [0049]), the identifier list including identifiers of wireless terminals belonging to the ad-hoc network ("This retrieved list includes information regarding the STAs beaconing in Ad Hoc mode" see [0049]). Since, Fischer and Ayyagari are related to Ad-hoc wireless network; and/or more specifically they both are concerned with transmitting the beacon signal; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Fischer as

taught by Ayyagari for purpose of providing the STAs beaconing information to all STAs associating with the particular IBSS; thus making the process of broadcasting much faster and saving the power consumption of the STA as the known beaconing information being provided.

II) Claims 7, 8, 10, 11 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer in view of Ayyagari and further in view of Runick (US 2002/0131371; previously cited).

Regarding claim 7, Fischer and Ayyagari disclose the method according to claim 1, except sending at least one traffic announcement message to the wireless terminal currently acting as the beacon broadcaster, each traffic announcement message identifying at least one wireless terminal for which another wireless terminal has data to be delivered. However in analogous art, Runick teaches sending at least one traffic announcement message to the wireless terminal currently acting as the beacon broadcaster "The ATIM is sent during the ATIM window, which occurs immediately following Beacon transmission" see [0023]), each traffic announcement message identifying at least one wireless terminal for which another wireless terminal has data to be delivered ("block data transfer" see [0025]). Since, Fischer, Ayyagari and Runick are related to Ad-hoc wireless network; and/or more specifically they both are concerned with transmitting the beacon signal; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Fischer and Ayyagari as taught by Runick in order to save the power consumption of

the STA as "The ATIM is sent during the ATIM window, which occurs immediately following Beacon transmission".

Regarding claim 8, Fisher discloses the method according to claim 7, wherein the wireless terminal acting as the beacon broadcaster ("In an IBSS, all of the STAs are responsible for sending beacons" see [0037]) is the first wireless terminal ("wireless terminal first determines" see [0046] and fig. 5 A step 504).

Regarding claim 10, Runick discloses the method according to claim 7, further comprising: based on at least one traffic announcement message, compiling a traffic indication data element; and inserting the traffic indication data element into a selected subsequent beacon frame (fig. 1 and [0030]).

Regarding claim 11, Runick discloses the method according to claim 10, further comprising indicating a moment of the selected subsequent beacon frame in the beacon frame (fig. 1 and [0030]).

Regarding claim 24, Fischer and Ayyagari disclose the apparatus according to claim 22, except further comprising processor configured to receive and handle at least one traffic announcement message identifying at least one wireless terminal for which data is to be delivered in the ad-hoc network, the processor being configured to compile, based on the at least one traffic announcement message, a traffic indication

data element, and to insert the traffic indication data element into a selected subsequent beacon frame. However in analogous art, Runick teaches processor to receive and handle at least one traffic announcement message ("The ATIM is sent during the ATIM window, which occurs immediately following Beacon transmission" see [0023]) identifying at least one wireless terminal for which data is to be delivered in the ad-hoc network ("block data transfer" see [0025]), the processor being configured to compile, based on the at least one traffic announcement message, a traffic indication data element (fig. 1 and [0030]), and to insert the traffic indication data element into a selected subsequent beacon frame (fig. 1 and [0030]). Since, Fischer, Ayyagari and Runick are related to Ad-hoc wireless network; and/or more specifically they both are concerned with transmitting the beacon signal; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Fischer and Ayyagari as taught by Runick in order to save the power consumption of the STA as "The ATIM is sent during the ATIM window, which occurs immediately following Beacon transmission".

Allowable Subject Matter

6. Claims 3-5, 9 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 3-5, 9 and 12 are objected with the same reasons set forth in the Office Action mailed 12/31/2008 (pages 8-9).

Reasons for Allowance

7. Claims 15-21, 25-34 and 37 are allowed.

The following is a statement of reason for the indication of allowance:

Claims 15-21, 25-34 and 37 are allowed with the same reasons set forth in the Office Action mailed 12/31/2008 (pages 10-11).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Laberteaux discloses that "The Point Coordinator broadcasts beacon frames at periodic intervals. Specifically, the PC schedules the broadcast of a beacon frame every target beacon transmission time (TBTT) time units" (see specification).

b) Cheung discloses that "The software routine 840 includes a message forwarding routine 845 for forwarding messages either onto the wired LAN, or to a wireless node by a wireless transmission; a beacon generator 850 for periodically broadcasting the internetworking node's address; a topology table updating routine 855 for constructing the topology table 823" (see specification).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy Q Phan whose telephone number is 571-272-7924. The examiner can normally be reached on 9AM-9:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

/Huy Q Phan/
Primary (TFSA) Examiner, Art Unit 2617
Date: 04/18/2009